
Library Management System

Version 1.0 | 21-08-2018

Purpose of this document

Scope of this document

This document covers the following things:

- Design
- Functional Requirements
- Non-Functional Requirements
- Limitations
- PDL
- Flow Chart of proposed solution

1 Introduction

To design a Library Management System.

2 Functional Requirements

To design various functionalities for Librarian and User.

Librarian:

- 1: Modifying Book Collection.
- 2: Adding books when Checked-in.
- 3: Issuing books/check out.
- 4: Displaying the Book Details.
- 5: Check for the valid date.

User:

- 1: Check in.
- 2: Check out.
- 3: Update user information.

3 Non-Functional Requirements

- 1: The application should be menu driven.
- 2: There should be separate menus for Librarian and User.
- 3: Librarian should be authenticated using a password.

4 High Level Design Overview

Structures used:

1: struct Librarian

```
{  
  
    String *L_name;  
  
    int id;  
  
    String *author1, *author2, *Publisher;  
  
};
```

2: struct User

```
{  
  
    String *U_name;  
  
    int Ph_no;  
  
    int Book_id;  
  
};
```

4.1 Assumptions

- Each item is assumed to be checked in when it is imported.
- Check-out of a library item is for indefinite time and no requirement to track the due date.
- All possible user inputs are handled by the system. Print warning messages wherever required.
- Extendibility should be provided for adding the other items such as journals, DVD's etc. to inventory.

5 Error Handling Strategy

Errors are handled using Exception Handling Strategy.

6 Functions Used

- Int mainMenu(void)
- Void issue();
- Void return();
- Void update();
- Void delete();
- Void add();
- Void display();

7 Program Description Language

Select Menu.

In Librarian menu-> Authenticate password.

*Choose operations.

1: If valid date, Add Books.

2: Remove books.

3: Check-in books to the library.

4: Check-out books from the library.

5: Search a Book.

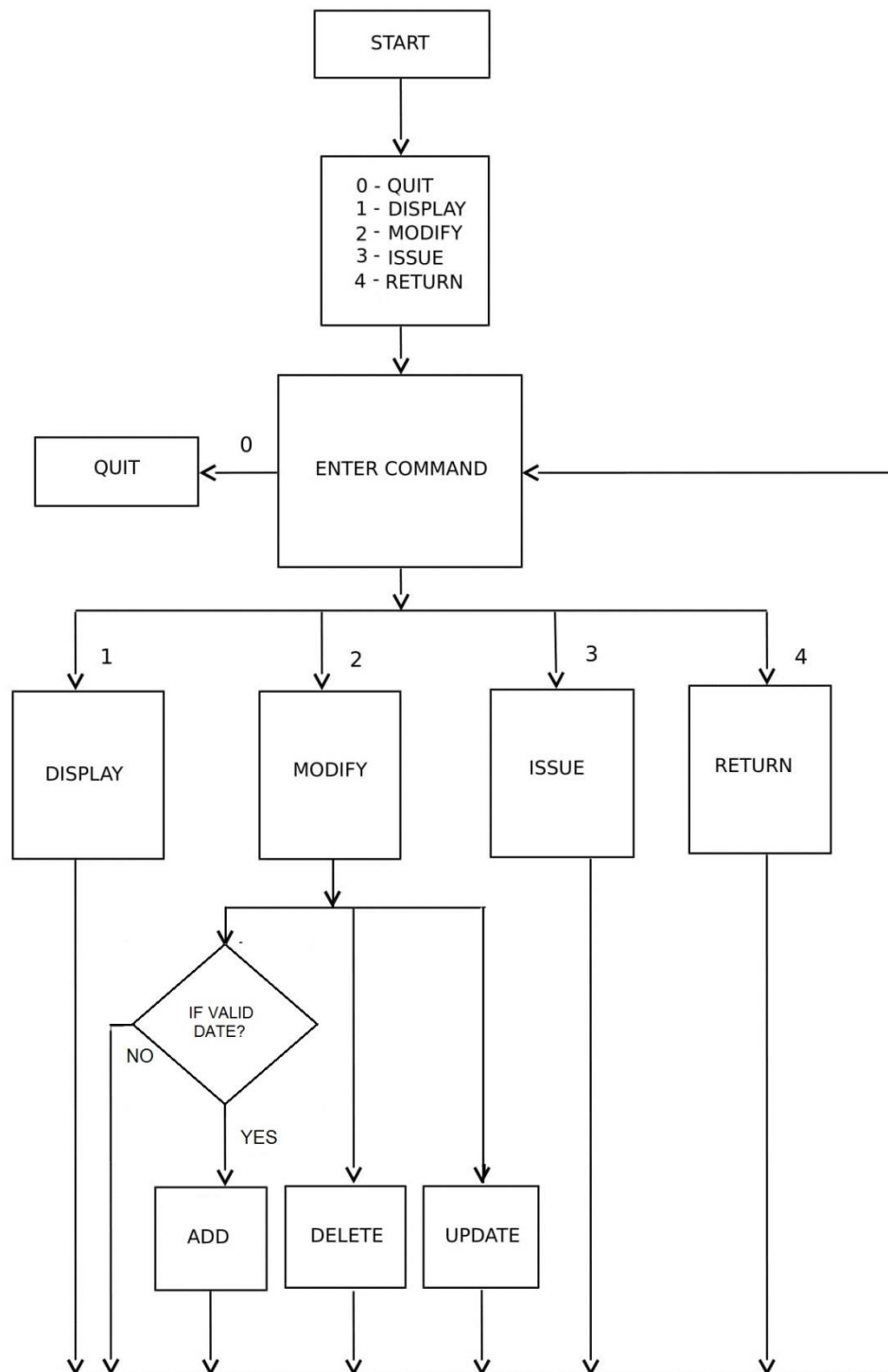
6: Display the Book Details.

In user menu

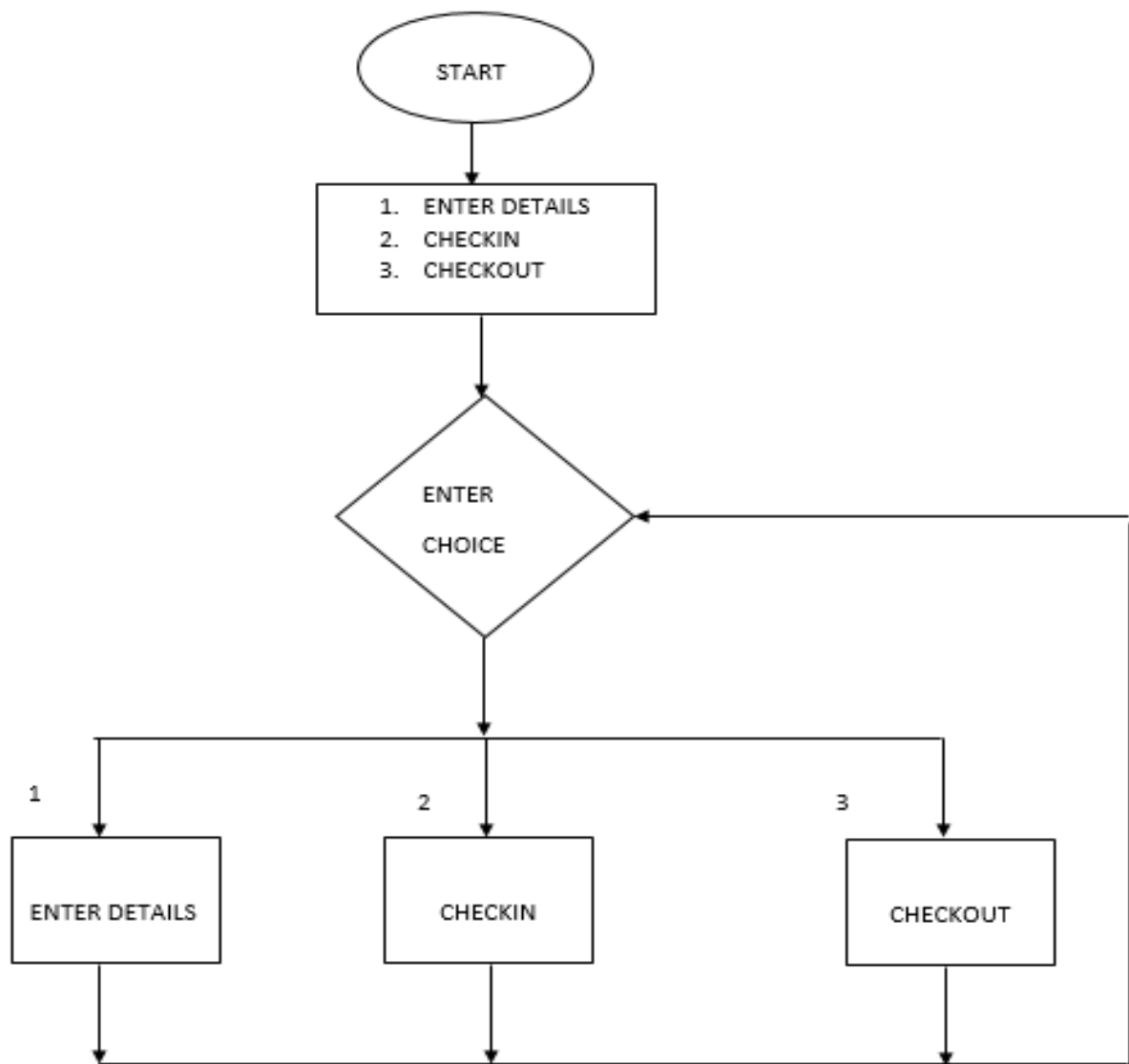
1: Check in the returned book.

2: Check out the issued book.

8 FLOWCHARTS



**FLOW CHART FOR
LIBRARIAN**



FLOWCHART FOR THE USER